

## WHAT IS CLAIMED:

1. A maladapted non-human animal, the animal conditioned to exhibit at least one PTSD like behavior selected from the group consisting of:
  - (a) re-experiencing a trauma in response to a stimulus associated with said trauma,
  - (b) avoidance of social interaction; and
  - (c) hyper-arousal in response to a stimulus not associated with the trauma.
2. The maladapted non-human animal of claim 1, further characterized by a change in at least one biological parameter.
3. The maladapted non-human animal of claim 2, wherein said at least one biological parameter is selected from the group consisting of a Wolframin level and a Sigma 1 receptor level.
4. The maladapted non-human animal of claim 1, characterized by at least two of said PTSD like behaviors.
5. The maladapted non-human animal of claim 1, characterized by all three of said PTSD like behaviors.
6. A method for producing a small group of maladapted non-human animals characterized by PTSD like behavior from a larger group of animals by behavioral conditioning, the method comprising:
  - (a) determining an individual baseline behavioral level for each one of an individual animal in the larger group after a period of habituation to a defined set of conditions;
  - (b) exposing each one of said individual animal in the larger group to a trauma event and further determining an individual posttraumatic event behavioral level for each of said individual animal;

(c) re-exposing each of said individual animal in the larger group to a trauma related event and further determining an individual post trauma related event behavioral level for each individual animal;

(d) evaluating said individual post trauma related event behavioral level for each individual animal with respect to at least one baseline value according to a predetermined rule in order to determine which of said individual animal in the larger group belong to the small group of maladapted animals characterized by PTSD like behavior.

7. The method of claim 6, wherein said baseline value is selected from the group consisting of:

- (i) said individual baseline behavioral level for an animal which is a subject of said individual post trauma related event behavioral level;
- (ii) said individual post traumatic event behavioral level for said animal which is a subject of said individual post trauma related event;
- (iii) an upper limit of a range of a pool of values of said individual baseline behavioral level for each one of an individual animal in the larger group;
- (iv) a mean average of said range of a pool of values of said individual baseline behavioral level for each one of an individual animal in the larger group; and
- (v) a mode average of said range of a pool of values of said individual baseline behavioral level for each one of an individual animal in the larger group.

8. The method of claim 6, further comprising measuring at least one biological parameter affected by the behavioral conditioning.

9. The method of claim 8, wherein said at least one biological parameter is selected from the group consisting of a Wolframin level and a Sigma 1 receptor level.

10. The method of claim 6, wherein said determining an individual baseline behavioral level, said further determining an individual post traumatic event behavioral level, further determining an individual post trauma related event

behavioral level are each independently accomplished by analysis of videotapes of a defined behavior of said individual animal under controlled conditions.

11. The method of claim 10, wherein said defined behavior of said individual animal is freezing.

12. The method of claim 10, wherein said controlled conditions include at least one set of conditions selected from the group consisting of: said individual animal alone, said individual animal together with a habituated companion animal and said individual animal exposed to a stimulus not related to said trauma event.

13. The method of claim 10, further comprising at least one repetition of said re-exposing each of said individual animal in the larger group to a trauma related event and of said further determining an individual post trauma related event behavioral level for each individual animal.

14. The method of claim 6, further comprising evaluating an ability of a candidate compound to cause a behavioral level of an individual maladapted animal treated with said candidate compound to revert towards said baseline.

15. A maladapted non-human animal produced and identified according to the method of claim 6.

16. A method for screening a candidate compound for PTSD treatment, the method comprising:

- (a) producing a small group of individually evaluated maladapted non-human animals characterized by PTSD like behavior from a larger group of animals wherein an individual in said small group is correlatable to a corresponding individual behavioral profile;
- (b) identifying each of said individuals in said small group of individually evaluated maladapted non-human animals characterized by PTSD like behavior;
- (c) administering a candidate compound to at least a portion of said individuals in said small group;

(d) determining an effect of said candidate compound on each of said individuals in said at least a portion of said small group with respect to said corresponding individual behavioral profile.

17. The method of claim 16, further comprising measuring at least one biological parameter in each of said individually evaluated maladapted non-human animals.

18. The method of claim 17, wherein said at least one biological parameter is selected from the group consisting of a Wolframin level and a Sigma 1 receptor level.

19. The method of claim 16, further comprising applying an accepted statistical analysis to a pool of data pertaining to said effect of said candidate compound on each of said individuals in said at least a portion of said small group with respect to said corresponding individual behavioral profile.

20. The method of claim 16, further comprising administering a control compound to an additional at least at least a portion of said individuals in said small group.

21. The method of claim 20, wherein said control compound includes at least one compound selected from the group consisting of a negative control compound and a compound with a previously characterized efficacy in treating PTSD.

22. The method of claim 16, wherein the method is performed as iterated and wherein the treatment is a therapeutic treatment.

23. The method of claim 16, wherein the treatment is a prophylactic treatment.

24. A method for screening a candidate compound for prophylactic PTSD treatment, the method comprising:

(a) establishing a method for producing a small group of maladapted non-human animals characterized by PTSD like behavior from a large group of animals by behavioral conditioning;

(b) employing statistical methods to determine a confidence interval for a relative size of said small group of maladapted non-human animals characterized by PTSD like behavior with respect to a size of said large group of animals;

(c) administering the candidate compound to a subsequent large group of animals subjected to said method for producing a subsequent small group of maladapted non-human animals characterized by PTSD like behavior; and

(d) determining whether a relative size of said subsequent small group of maladapted non-human animals characterized by PTSD like behavior with respect to a size of said subsequent large group of animals falls within said confidence interval.

25. A method for screening a candidate compound for PTSD treatment, the method comprising:

(a) establishing a method for producing a small group of maladapted PTSD like non-human animals from a large group of animals by behavioral conditioning;

(b) measuring at least one biological parameter for each animal in said small group of maladapted PTSD like non-human animals;

(c) employing statistical methods to:

(i) determine a first confidence interval for a relative size of said small group of maladapted PTSD like non-human animals with respect to a size of said large group of animals;

(ii) determine a second confidence interval for said at least one biological parameter for said small group of maladapted PTSD like non-human animals;

(d) administering the candidate compound to a subsequent large group of animals subjected to said method for producing a subsequent small group of maladapted non-human animals characterized by PTSD like behavior; and

(e) determining whether a relative size of a subset of said subsequent large group of animals characterized by a value for said at least one biological parameter

which falls within said second confidence interval falls within said first confidence interval; and

(f) concluding that:

- (i) the candidate compound is effective in ameliorating PTSD if said relative size of said subset of said subsequent large group of animals characterized by a value for said at least one biological parameter which falls within said second confidence interval is below a lower bound of said first confidence interval; or
- (ii) the candidate compound is not effective in ameliorating PTSD if said relative size of said subset of said subsequent large group of animals characterized by a value for said at least one biological parameter which falls within said second confidence interval is above a lower bound of said first confidence interval.

26. The method of claim 25, wherein said at least one biological parameter includes at least one item selected from the group consisting of a Wolframin level and a Sigma 1 receptor level.

27. A method for screening a candidate compound for PTSD treatment, the method comprising employing known statistical methods to perform an analysis which is logically similar to the method of claim 25.